



STIC EIC 2100 Search Request Form

119914
77

Today's Date: 4/21/04

What date would you like to use to limit the search?

Priority Date: 5/24/01 Other: _____

Name Todd Ingberg
AU 2124 Examiner # 75084
Room # 5418 Phone 5-9775
Serial # 09/864 109

Format for Search Results (Circle One):

PAPER DISK EMAIL

Where have you searched so far?

USP DWPI EPO JPO ACM IBM TDB

IEEE INSPEC SPI Other _____

Is this a "Fast & Focused" Search Request? (Circle One) YES **NO**

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at <http://ptoweb/patents/stic/stic-tc2100.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

Case 09/864,109

Filed 5/24/2001 we can easily find stuff much earlier

Background

I need some stuff showing the following

1. UNIX the DUMP command and what it normally produces
2. C compiler the -g option on compiling. What it does

All this is background for the invention.

One of the best places is the GNU website.

Give it a couple seconds the protest banner disappears.

3 The actual invention. GNU Unix most likely has a

HOW TO EDIT THE DUMP COMMAND IN GNU UNIX

I need this type of how to instructions.

Todd Ingberg

Primary Examiner

Art Unit 2124

305-9775

st Available Copy

STIC Searcher Terese Esterfeld

Phone 308-7795

Date picked up 4/21/04 11:30am

Date Completed 4/22/04 3:00pm



LINUX[®] System Administration

Anne H. Carasik

M&T Books.
An imprint of IDG Books Worldwide, Inc.

Foster City, CA ♦ Chicago, IL ♦ Indianapolis, IN ♦ New York, NY





STIC Search Report

EIC 2100

STIC Database Tracking Number: 119914

TO: Todd Ingberg
Location: 5X18
Art Unit : 2124
Thursday, April 22, 2004

Case Serial Number: 09/864109

From: Terese Esterheld
Location: EIC 2100
PK2-4B30
Phone: 308-7795

Terese.esterheld@uspto.gov

Search Notes

Dear Examiner Ingberg,

Attached, please find the results of your search request for application 09/864109. I have concentrated on finding information on UNIX DUMP Command.

I have searched books, the WWW and DIALOG for specific information.

Please let me if you need additional information on this search.

Thank you for coming to EIC 2100.

Terese Esterheld

LINUX® System Administration

Published by

M&T Books

An imprint of IDG Books Worldwide, Inc.

919 E. Hillsdale Blvd., Suite 400

Foster City, CA 94404

www.idgbooks.com (IDG Books Worldwide Web site)

Copyright © 1999 IDG Books Worldwide, Inc. All rights reserved. No part of this book, including interior design, cover design, and icons, may be reproduced or transmitted in any form, by any means (electronic, photocopying, recording, or otherwise) without the prior written permission of the publisher.

Library of Congress Catalog Card Number: 98-75153

ISBN: 0-7645-7008-0

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

1B/RT/RR/ZY/FC

Distributed in the United States by IDG Books Worldwide, Inc.

Distributed by Macmillan Canada for Canada; by Transworld Publishers Limited in the United Kingdom; by IDG Norge Books for Norway; by IDG Sweden Books for Sweden; by Woodslane Pty. Ltd. for Australia; by Woodslane (NZ) Ltd. for New Zealand; by Addison Wesley Longman Singapore Pte Ltd. for Singapore, Malaysia, Thailand, Indonesia, and Korea; by Norma Comunicaciones S.A. for Colombia; by Intersoft for South Africa; by International Thomson Publishing for Germany, Austria, and Switzerland; by Toppan Company Ltd. for Japan; by Distribuidora Cuspidor for Argentina; by Livraria Cultura for Brazil; by Ediciencia S.A. for Ecuador; by Ediciones ZETA S.C.R. Ltda. for Peru; by WS Computer Publishing Corporation, Inc., for the Philippines; by Unalis Corporation for Taiwan; by Contemporanea de Ediciones for Venezuela; by Computer Book & Magazine Store for Puerto Rico; by Express Computer Distributors for the Caribbean and West Indies. Authorized Sales Agent: Anthony Rudkin Associates for the Middle East and North Africa.

For general information on IDG Books Worldwide's books in the U.S., please call our Consumer Customer Service department at 800-762-2974. For reseller information, including discounts and premium sales, please call our Reseller Customer Service department at 800-434-3422.

For information on where to purchase IDG Books Worldwide's books outside the U.S., please contact our International Sales department at 650-655-3200 or fax 650-655-3297.

For information on foreign language translations, please contact our Foreign & Subsidiary Rights department at 650-655-3021 or fax 650-655-3281.

For sales inquiries and special prices for bulk quantities, please contact our Sales department at 650-655-3200 or write to the address above.

For information on using IDG Books Worldwide's books in the classroom or for ordering examination copies, please contact our Educational Sales department at 800-434-2086 or fax 317-596-5499.

For press review copies, author interviews, or other publicity information, please contact our Public Relations department at 650-655-3000 or fax 650-655-3299.

For authorization to photocopy items for corporate, personal, or educational use, please contact Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, or fax 978-750-4470.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: THE PUBLISHER AND AUTHOR HAVE USED THEIR BEST EFFORTS IN PREPARING THIS BOOK. THE PUBLISHER AND AUTHOR MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS BOOK AND SPECIFICALLY DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTIONS CONTAINED IN THIS PARAGRAPH. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES REPRESENTATIVES OR WRITTEN SALES MATERIALS. THE ACCURACY AND COMPLETENESS OF THE INFORMATION PROVIDED HEREIN AND THE OPINIONS STATED HEREIN ARE NOT GUARANTEED OR WARRANTED TO PRODUCE ANY PARTICULAR RESULTS, AND THE ADVICE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR EVERY INDIVIDUAL. NEITHER THE PUBLISHER NOR AUTHOR SHALL BE LIABLE FOR ANY LOSS OF PROFIT OR ANY OTHER COMMERCIAL DAMAGES, INCLUDING BUT NOT LIMITED TO SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES. FULFILLMENT OF EACH COUPON OFFER IS THE RESPONSIBILITY OF THE OFFEROR.

Trademarks: All brand names and product names used in this book are trade names, service marks, trademarks, or registered trademarks of their respective owners. IDG Books Worldwide is not associated with any product or vendor mentioned in this book.



is a trademark under exclusive license to IDG Books Worldwide, Inc., from International Data Group, Inc.



is a trademark of IDG Books Worldwide, Inc.

IDG Books
Data Group
ARGENTINA
AUSTRIA:
Macworld,
Canada, In
CZECH A
World Dan
America; F
Computer
America; H
ICELAND
Publish in
Macworld
MACEDO
NETHER
Computer
Rapport, k
Panama; P
Weekly, G
Computer
Cerebro/P
Telecom R
SA, Softw
Corporate
TURKEY:
Action UK
World, Fe
and SunW

When you have set up your file system, you can get all the physical information about your drive by using the `dumpe2fs` command. Its first response is to print the general information that describes the disk.

```
# dumpe2fs /dev/hdb1
Filesystem volume name: <none>
Last mounted on: <not available>
Filesystem UUID: ff58a23c-2d18-11d2-8572-df2853ee15fb
Filesystem magic number: 0xEF53
Filesystem revision #: 0 (original)
Filesystem features: (none)
Filesystem state: not clean
Errors behavior: Continue
Filesystem OS type: Linux
Inode count: 128016
Block count: 512032
Reserved block count: 25601
Free blocks: 482165
Free inodes: 125683
First block: 1
Block size: 1024
Fragment size: 1024
Blocks per group: 8192
Fragments per group: 8192
Inodes per group: 2032
Inode blocks per group: 254
Last mount time: Mon Aug 10 09:35:01 1998
Last write time: Mon Aug 10 17:38:30 1998
Mount count: 11
Maximum mount count: 20
Last checked: Thu Aug 6 03:34:13 1998
Check interval: 15552000 (6 months)
Next check after: Tue Feb 2 02:34:13 1999
Reserved blocks uid: 0 (user root)
Reserved blocks gid: 0 (group root)
```

Next `dumpe2fs` prints the group information; within the groups are sets of blocks and the locations of the inode tables. It also tells you how many directories, free inodes, and blocks you have.

```
Group 0: (Blocks 1 -- 8192)
  Block bitmap at 4 (+3), Inode bitmap at 5 (+4)
  Inode table at 6 (+5)
  6682 free blocks, 2019 free inodes, 2 directories
```

Free blocks: 1511-8192
Free inodes: 14-2032
Group 1: (Blocks 8193 -- 16384)
Block bitmap at 8196 (+3), Inode bitmap at 8197 (+4)
Inode table at 8198 (+5)
7932 free blocks, 2031 free inodes, 1 directories
Free blocks: 8453-16384
Free inodes: 2034-4064
Group 2: (Blocks 16385 -- 24576)
Block bitmap at 16388 (+3), Inode bitmap at 16389 (+4)
Inode table at 16390 (+5)
7932 free blocks, 2031 free inodes, 1 directories
Free blocks: 16645-24576
Free inodes: 4066-6096
Group 3: (Blocks 24577 -- 32768)
Block bitmap at 24580 (+3), Inode bitmap at 24581 (+4)
Inode table at 24582 (+5)
7880 free blocks, 386 free inodes, 1 directories
Free blocks: 24889-32768
Free inodes: 7743-8128
Group 4: (Blocks 32769 -- 40960)
Block bitmap at 32772 (+3), Inode bitmap at 32773 (+4)
Inode table at 32774 (+5)
5206 free blocks, 1952 free inodes, 1 directories
Free blocks: 35165-35172, 35763-40960
Free inodes: 8209-10160
Group 5: (Blocks 40961 -- 49152)
Block bitmap at 40964 (+3), Inode bitmap at 40965 (+4)
Inode table at 40966 (+5)
7237 free blocks, 2027 free inodes, 0 directories
Free blocks: 41220, 41917-49152
Free inodes: 10161, 10167-12192
Group 6: (Blocks 49153 -- 57344)
Block bitmap at 49156 (+3), Inode bitmap at 49157 (+4)
Inode table at 49158 (+5)
7932 free blocks, 2031 free inodes, 1 directories
Free blocks: 49413-57344
Free inodes: 12194-14224
Group 7: (Blocks 57345 -- 65536)
Block bitmap at 57348 (+3), Inode bitmap at 57349 (+4)
Inode table at 57350 (+5)
6308 free blocks, 1928 free inodes, 1 directories
Free blocks: 59229-65536
Free inodes: 14329-16256

Group 8: (Blocks 65537 -- 73728)
Block bitmap at 65540 (+3), Inode bitmap at 65541 (+4)
Inode table at 65542 (+5)
7751 free blocks, 2024 free inodes, 1 directories
Free blocks: 65959-65974, 65994-73728
Free inodes: 16263, 16266-18288

Group 9: (Blocks 73729 -- 81920)
Block bitmap at 73732 (+3), Inode bitmap at 73733 (+4)
Inode table at 73734 (+5)
7908 free blocks, 2028 free inodes, 1 directories
Free blocks: 74013-81920
Free inodes: 18293-20320

Group 10: (Blocks 81921 -- 90112)
Block bitmap at 81924 (+3), Inode bitmap at 81925 (+4)
Inode table at 81926 (+5)
7927 free blocks, 2026 free inodes, 1 directories
Free blocks: 82186-90112
Free inodes: 20327-22352

Group 11: (Blocks 90113 -- 98304)
Block bitmap at 90116 (+3), Inode bitmap at 90117 (+4)
Inode table at 90118 (+5)
7932 free blocks, 2031 free inodes, 1 directories
Free blocks: 90373-98304
Free inodes: 22354-24384

Group 12: (Blocks 98305 -- 106496)
Block bitmap at 98308 (+3), Inode bitmap at 98309 (+4)
Inode table at 98310 (+5)
6294 free blocks, 1993 free inodes, 1 directories
Free blocks: 100203-106496
Free inodes: 24424-26416

Group 13: (Blocks 106497 -- 114688)
Block bitmap at 106500 (+3), Inode bitmap at 106501 (+4)
Inode table at 106502 (+5)
7932 free blocks, 2031 free inodes, 1 directories
Free blocks: 106757-114688
Free inodes: 26418-28448

To check the disk integrity, use the command `e2fsck`. This will tell you if your partition is clean or if your partitions are non-contiguous.

```
# e2fsck /dev/hda1
```

Another useful tool to use is `tune2fs`. This enables you to tune your file system. You can change the response to errors (continue, mount as read-only, or kernel panic), set the volume label and any other parameter that could be created with `mke2fs`. However, you are playing with a live file system. Be aware that you can cause some drastic and possibly unwanted results.



Do NOT run `e2fsck` or `tune2fs` on a read-writable mounted partition! Before using `e2fsck` or `tune2fs`, make sure you backup the data on the disk and unmount the partition. Keep in mind you are changing the configuration of the disk itself, and you may lose your data.

Links

Two types of links are available in your Linux system: *hard* and *symbolic* (also called a *soft link* or *symlink*). Inodes play a large part in the functioning of both types. A *link* is a way to "nickname" a file; you can refer to the same file with more than one name. The following listing depicts a file called `inodes`, a symlink, and a hardlink.

```
$ ls -li
total 11
93475 -rw-r--r-- 1 stripes users      52 Aug  6 17:06 diskstuff
93474 -rw-r--r-- 2 stripes users     3470 Aug  6 19:06 hardlink
93474 -rw-r--r-- 2 stripes users     3470 Aug  6 19:06 inodes
95505 drwxr-xr-x 2 stripes users     1024 Aug  6 17:06 moreinfo
99569 drwxr-xr-x 2 stripes users     1024 Aug  6 17:07 morestuff
93476 lrwxrwxrwx 1 stripes users        6 Aug  6 17:36 symlink -> inodes
```

HARD LINKS

A hard link points to the inode of a file. From the following listing, you can see both `hardlink` and `inodes` have the same inode, or index number (93474). Also, you can see they both have the same time (19:06) and block size (3470).

```
$ ls h* i*
93474 -rw-r--r-- 2 stripes users     3470 Aug  6 19:06 hardlink
93474 -rw-r--r-- 2 stripes users     3470 Aug  6 19:06 inodes
```

To create a hard link, just issue the command `ln`.

```
$ ln file hardlink
```

u if your

- disaster recovery plans, 309-311
- disk drives, 85-104
 - file structure on, 86-96
 - SCSI versus IDE, 86
- disk group number, 254
- disk partitions, creating, 9-10
- disk quotas, 75
 - maintaining, 78-80
- disks
 - adding, 77-78
 - arrangement strategies for, 75-80
 - boot, creating, 6-7
 - root, creating, 7-9
 - using the best partitioning methods, 76-77
- Domain Name Service (DNS)
 - Linux client, 341
 - naming your networks with, 339-343
- dot (hidden) files, finding, 124
- drivers, Web site addresses for, 108-109
- dump2fs command, getting all physical information about a drive with, 66-68
- DumpUPSD UPS power management tool, 329
- dynamically linked files, 114-116
- E**
 - E (GNU Emacs) package, 15
 - e2fsck command, checking disk integrity with, 68
 - editing tools, 136
 - edquota command, editing user disk space quotas with, 80, 250
 - Elm e-mail application, 375
 - e-mail (electronic mail) applications
 - daemons, 381
 - Elm, 375
 - Pine, 374
 - XMH, 375
 - emergency live backup site, as disaster recovery tool, 310
 - encryption, password, 240-241
 - error handling
 - forking processes, 158-159
 - interval timer, 168
 - error messages, when viewing UNIX files with Windows VIEW.EXE file, 5
 - /etc directory, files and subdirectories in, 73
 - /etc/d_passwd file, 239
 - /etc/ftpusers file, blocking users from accessing host with, 357-359
 - /etc/group file, syntax for, 251
 - /etc/hosts file, format for, 350-351
 - /etc/hosts.equiv file, precautions when using, 359-360
 - /etc/inetd.conf file, 347-350
 - /etc/inittab file
 - defining the run level in, 215
 - using to set up system functionality, 202
 - /etc/networks file, format for, 351
 - /etc/passwd file, meaning of asterisk (*) in password field, 238
 - /etc/passwd.nntp file, 239
 - /etc/printcap file, creating, 145-146

UNIX[®] System Administrator's Edition

Robin Burk and David B. Horvath, CCP, et al.

SAMS
PUBLISHING

201 West 103rd Street
Indianapolis, IN 46290



UNLEASHED

To Stephen P. Kowalchuk, who provided an IS manager and practicing network administrator's point of view.

—Robin Burk

This edition is dedicated to my parents and grandparents. Education and doing one's best were always important to them.

—David B. Horvath

Copyright © 1997 by Sams Publishing

SECOND EDITION

All rights reserved. No part of this book shall be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. No patent liability is assumed with respect to the use of the information contained herein. Although every precaution has been taken in the preparation of this book, the publisher and authors assume no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. For information, address Sams Publishing, 201 W. 103rd St., Indianapolis, IN 46290.

International Standard Book Number: 0-672-30952-1

Library of Congress Catalog Card Number: 96-67964

2000 99 98 97

4 3 2 1

Interpretation of the printing code: the rightmost double-digit number is the year of the book's printing; the rightmost single-digit, the number of the book's printing. For example, a printing code of 97-1 shows that the first printing of the book occurred in 1997.

*Composed in AGaramond and MCPdigital by Macmillan Computer Publishing
Printed in the United States of America*

Trademarks

All terms mentioned in this book that are known to be trademarks or service marks have been appropriately capitalized. Sams Publishing cannot attest to the accuracy of this information. Use of a term in this book should not be regarded as affecting the validity of any trademark or service mark. UNIX is a registered trademark of The Open Group.

President	<i>Richard K. Swadley</i>
Publisher and Director of Acquisitions	<i>Jordan Gold</i>
Director of Product Development	<i>Dean Miller</i>
Managing Editor	<i>Brice P. Gosnell</i>
Indexing Manager	<i>Johnna L. VanHoose</i>
Director of Marketing	<i>Kelli S. Spencer</i>
Associate Product Marketing Manager	<i>Jennifer Pock</i>
Marketing Coordinator	<i>Linda Beckwith</i>

Acquisitions Editors

*Cari Skaggs
Sunthar Visuvalingam*

Development Editor

Sunthar Visuvalingam

Software Development Specialists

*Patricia J. Brooks
Jordan Hubbard*

Production Editor

Sandy Doell

Copy Editors

*Fran Blauw
Mitzi Foster
Charles A. Hutchinson
Mary Inderstrodt*

Indexer

Erika Millen

Technical Reviewers

*Billy Barron
Raj Mangal
Lay Wah Ooi*

Editorial Coordinators

*Mandie Rowell
Katie Wise*

Technical Edit Coordinator

Lynette Quinn

Resource Coordinators

*Deborah Frisby
Charlotte Clapp*

Editorial Assistants

*Carol Ackerman
Andi Richter
Rhonda Tinch-Mize*

Cover Designer

Jason Grisham

Book Designer

Alyssa Yesh

Copy Writer

David Reichwein

Production Team Supervisors

*Brad Chinn
Andrew Stone*

Production Team

*Jenaffer Brandt, Jeanne
Clark, Ayanna Lacey,
Shawn Ring*

Using the dump Command

The dump command essentially has the same functionality as the tar command, with the exception that it is somewhat more rigorous than tar. With dump, you can back up an entire file system or specified files and directories in a file system. In addition, you can specify a "dump level" (priority for saving files) to indicate the currency (last modification time) of the files to be backed up.

For example, if a level 2 dump is done on one day and a level 4 dump is done on the following day, only the files that have been modified or added since the level 2 dump will be backed up to the level 4 dump. The date and level of prior dumps are listed in the file `/etc/dumpdates`. Dump uses this file as a reference to decide which files to back up. If a dump command is not successful, it will not update this file.

Used in conjunction with the system scheduler (cron), this can be an effective solution for continuous system backups and archives.

In general, dump is used in the following format:

```
/usr/etc/dump [options [arguments]] filesystem
```

A typical example of this command would be the following,

```
/usr/etc/dump /dev/nrst0 /dev/sd0h
```

where `/dev/nrst0` is the no-rewind tape device file and `/dev/sd0h` is the file system device file of the file system to be backed up. You must get the file system device filename from the output of `df`, cross-referenced with the appropriate directory. This example was taken from a Sun system.

In addition to dumping file systems, you can dump specific files. However, if you choose to do this, you can only back up files at level 0. As a matter of fact, the `/etc/dumpdates` file is never even used, even if you choose the `-u` option.

As an example, let's say we want to dump the files `chapter1` and `chapter2` to an 8mm tape drive. The command would look something like this:

```
dump fdsb /dev/rst0 5400 6000 126 chapter1 chapter2
```

Consult the man pages for more information on the options available for each particular tape drive.

Using cpio

One of the more popular generic backup utilities in use today is the `cpio` command. In large part, its popularity is due to its capability to append backup volumes and span tapes, allowing you to create incremental backup sets and full systems backups without losing data integrity.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.